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Hydrochlorate of Rosaniline . . . . $C_{20} H_{20} N_3$ Cl.

Hydrochlorate of Triphenylic Rosaniline . . $C_{20} H_{17} N_3$ Cl.
$(C_6 H_5)_3$.

Details of these experiments I hope to lay before the Society at an early meeting.

VII. "On the Calculus of Symbols."—Third Memoir.   By W. H. L. RUSSELL, Esq., A.B.   Communicated by A. CAYLEY, F.R.S.   Received May 15, 1863.

(Abstract.)

In my second Memoir "On the Calculus of Symbols," I worked out the general case of multiplication according to one of the two systems of combination of non-commutative symbols previously given. In the present paper I propose to investigate the general case of multiplication according to the other system. I commence with the Binomial Theorem, to which the second system gives rise. In my previous researches I obtained the general term of the binomial theorem when the symbols combine according to the first system by equating symbolical coefficients; here, on the other hand, I consider the nature of the combinations which arise from the symbolical multiplication, and obtain the general term by summation. I next proceed to the multiplication of binomial factors. Here the general term is obtained by considering the alteration of weight undergone by certain symbols in the process of multiplication. The multinomial theorem according to the second system is next considered and its general term calculated. I conclude the memoir with some applications of the calculus of symbols to successive differentiation. This paper completes the investigation of symbolical multiplication and division according to the two systems of combination, the general case of division having been worked out by Mr. Spottiswoode in a very beautiful memoir recently published in the Philosophical Transactions.

The Society then adjourned over the Whitsuntide Recess to Thursday, June 11, the President having announced the Meeting for the Election of Fellows to take place on Thursday, June 4, at 4 P.M.